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WATER RATES FOR INDUSTRIAL CONSUMERS[1]

By E. E. Bankson[2]

A common source of controversy, in water rate cases, is the industrial rate or rate to large consumers. On inspection of representative schedules which have been approved by courts and commissions, there is found a wide variation in attitude toward this industrial rate. The purpose of this discussion is to examine the permissible variation, in this respect, within a consistent course.

The generally accepted basis of any rate theory is that "the individual charge for service shall be equal to the cost of the individual service," although there are many cases where the decision, as to rates, has been influenced by the value or the worth of the service as indicated by competition or possible loss of business. An effort will be made first to explain or partially to define the useful scope and limitations of these two factors.

The cost basis (including depreciation and fair return) may be considered as the ideal condition serving as a guide in fixing of the rates, the magnetic pole, so to speak, toward which the rates will be drawn. They may or may not closely approach the ideal point, depending on the relative strength of opposing forces in the form of competition, etc. The embryo advocate of the "cost basis" is usually unable to recognize the justice of the "value basis" under any circumstances, apparently failing to appreciate the fact that, although we are at liberty to fix rates according to any measuring stick which seems good, we have no way of compelling the consumers to purchase at the stated price.

In general, the primary function of a water works plant is to supply water to the community, both for general and for fire protection purposes, with the industrial supply as an incidental. The reverse sometimes may be true in extreme cases. Certainly the gridiron distribution system, which is a large percentage of the total investment, as well as the fire reserve, and filter plant, if any, are created for the community. The decision, therefore, as to the industrial supply resolves itself into the question as to whether or not this incidental supply can be sold at a profit. Mr. Chester has clearly defined a profitable or permissible rate for large consumers as "any rate which produces a result that will add to the net revenue of the plant." Coupled with this definition is also the understanding that such a rate to a large consumer should be the highest rate at which the sale can be effected; a higher rate would defeat the sale. This rate too will vary with different localities. For instance, the Pennsylvania Railroad takes its entire supply in a district from the Dennison Water Company, at approximately 10 cents per thousand gallons, while an average rate of 7½ cents does not prove attractive to that same company in the Upper Sandusky district. The foregoing discussion does not imply that an attractive rate should be offered to all possible takers, for there would be no justice or equity in providing this incidental supply at a loss. In fact, the only justice in fixing a rate to a large consumer, which would appear lower than the rate indicated by the "cost basis," lies in the fact that the net revenue thereby obtained is to be applied in fixing a lower rate for the major supply than would be possible without the revenue from the large consumer; granting a fair return on plant investment in either case. If a manufacturing plant may easily obtain, and only requires, raw water under a low head and if the City is supplied with filtered water under a high head, the lowest rate should be made unattractive to the manufacturer, for in this case the value of the service to the manufacturing plant is lower than the minimum profitable rate to the water department or company. To supply this incidental service at an attractive rate would increase actually the burden to the domestic consumers.

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[1] Read before the meeting of the Central States Section, September 27, 1921.

[2] The J. N. Chester Engineers, Pittsburgh, Pa.

Another vital point in this connection is that the attractive price to this large consumer may prove profitable only because of the existence of a surplus plant capacity, which can be used in delivering this incidental supply. This price might prove unprofitable as soon as additional capacity is made necessary. In a recent case, we protected the water company's position in this respect by indicating the low rate as applying only "so long as the present facilities of the water company are adequate." In another case where the plant capacity had been reached and where one industrial plant was taking over half the delivery at a low rate, we doubled the rate to large users, so that the rate would be in excess of the value and the large industry would be eliminated, (or retained at a rate which would justify an increase in plant capacity).

An example of an actual case may be cited where an analysis of conditions will serve to support the foregoing statements:

A large industry in the town of "X" is now providing its own raw water supply at a cost, for 1920, of 1.6 cents per thousand gallons. It is in a position to supply the necessary filtered water for its own plant at a computed cost of 4.2 cents per thousand gallons. Allowing for contingencies, however, and for the advantages of the more reliable and carefully guarded city supply, they paid, in 1920, an average rate of 5¾ cents to the city plant for their drinking and sanitary requirements.

The rate of 5¾ cents is admittedly less than the rate which would be equitable under the "cost basis," by an impartial analysis of the annual burden obtained from the water company costs, but it is the highest rate at which the business of this industry can be retained. Because this business is retained at this rate, the fair charge to other consumers is maintained at 12 cents per thousand gallons *less* than it would be if this industrial business were lost to the water company.

On the other hand, even the out-of-pocket cost of the water company service is 2.1 cents per thousand gallons, which would be increased by necessary fixed charges on additional plant capacity if the water company should attempt to supply its filtered water to the industrial plant as a substitute for the present raw water private supply. If the water company offered a rate which would attract the entire demand of this industry, in competition with the latter's cost of 1.6 cents, there would result an increased burden on domestic consumers, provided a fair return is maintained for the water. The conclusion is evident that the lowest rate offered by the water company should be made attractive to meet the sanitary demands of the industry, but *positively unattractive* in the case of the raw water demands.

The foregoing principles applied to the majority of water rates would indicate that the value of the commodity is more compelling than the computed cost of individual service. It is to be noted, that, under a total fair return, if the industrial rate is fixed lower than the cost, the domestic rate must be fixed higher than cost, which is still within the value of the product provided the domestic consumers continue their connections. Commissions have often recognized this feature of value through their approval of rate schedules so designed. Different phases of value have been recognized in many decisions, a few of which we quote at random:

> In the Bar Harbor Power Company's case, Maine, "Rates should not be higher than the value of the service to the consumer."
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> In the Greenville Water Company's case, Maine, "If, in a given instance it becomes a question whether the Company shall receive an adequate return or the rates shall be just and reasonable to the customer, the company must yield to the superior rights of its customers."
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> In the Butte Electric Company's case, Montana, "For whatever force is given to the principle that a just rate must take account of the value of the service to the public, it cannot be said that the latter principle destroys the fair return principle, i.e., while the service may be worth nothing to the man who cannot pay, the utility cannot be compelled to meet his necessities."
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> In the Illinois Northern Utilities Company's case, "Gas plants, located in small communities, cannot expect rates sufficient to make them paying concerns because such rates would exceed the value of service to the consumer." Which the writer interprets to have the same meaning as expressed in the following case.
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> In the Lehigh Valley Transit Company's case, Pennsylvania, "There are limits of fare beyond which transportation companies cannot go without driving away their business."

The foregoing analysis indicates that *value* is the final controlling element in many cases and that an industrial rate determined by value, rather than by cost, may be good legal practice, as well as good business, as long as the existence of that rate will effect a lower rate to other consumers. The *cost* basis is the goal towards which we strive, and which in some cases may be attained.

There are instances, such as we found in the case of the City of Pittsburgh, where the most compelling influences guiding the broad and general policies of the water service are in support of, rather than against, the *cost basis* for fixing rates. For the large steel mills and furnaces, located on the river banks and requiring only raw water under a low pressure, it was clearly seen to be poor economy for them to share with the city the cost of purification, pumping over the hill tops, and finally transporting the water long distances, when a satisfactory supply is at their door at a much lower cost. It would in the end create a financial loss, for the City of Pittsburgh, to deliver water for such purposes, at a price which would prove attractive to the manufacturer so located. This is particularly the case where we discover one company pumping more water than that handled by the city plant. Years ago the city council very wisely fixed the lowest rate at a point which is unattractive to the steel mills. Such a plan insures the City against an uneconomical increase in plant capacity.

From the foregoing discussiom the reader might erroneously infer that we are advocating the value basis as a general rule for fixing water rates to industrial consumers, but such an attitude is exactly contrary to our thought. We are pointing out rather that every case stands on its own merits. We advocate a sane, logical and consistent analysis resulting in the correct policy for each case.

The question of water rates to industrial consumers is nothing more than the question of the amount or extent of the *slide* in the meter rate schedule. On the basis of cost alone, you may find conditions supporting rates all the way from an absolute flat rate to all consumers, on the one hand, to a decided slide on the other hand.

The General Water Company, a Pennsylvania corporation, operates a water works plant which is owned and used jointly by some half dozen coal and coke companies. The water company delivers water to a central point and provides supply lines for a certain distance in any direction, at which point a large consumer desiring service, may connect and complete the line to his plant. In this case, therefore, remembering that all of the consumers are large industrials, there is no necessity for any slide in the schedule and no urgent need of any variation due to service or minimum charge.

The conditions at Milwaukee, Wisconsin, indicate a basis for rates differing only slightly from the foregoing. In this case the consumer, big or little, pays outright for his gridiron street main, individual service line, and meter, thereby eliminating from the rate base the more common causes for slide in the schedule, with the exception of the cost of meter reading, billing and collecting. This cost is covered in this case by a uniform service charge. The remaining cost consists of the uniform or flat price per thousand gallons to one and all. If it were practical to cover the service charge in the price per thousand gallons there would be created a justification for a small slide in the rate schedule.

It is the understanding of the writer that Cleveland follows practically the same policy as Milwaukee, excepting that the Cleveland water department furnishes the meter, creating a fair additional cost which, if thrown entirely into the rate per thousand gallons, would justify still more slide in the schedule than as mentioned for Milwaukee.

A practice similar to that followed by the City of Pittsburgh is next in line, which differs from Cleveland with respect to items mentioned only in that the water department furnishes also the gridiron street main. The practice in the City of Erie, where the water department provides all of these things and the individual service line in addition, justifies the greatest slide in the schedule of the entire list.

Following the case of Erie let us look at a private plant, where the Public Service Commission requires all of the items of consumer service rendered by the Erie plant, and where we are also confronted with the condition that the industrial rate be fixed on the basis of value at a lower rate than pure costs might indicate. We are justified then in a still greater slide in our schedule. More properly, a part of this slide in all cases should be covered by a service or a minimum charge.

The maximum slide in a rate schedule is justified in the case of a private plant, operating under the conditions of the case last mentioned, with the addition that there exists an excess in plant capacity which would otherwise remain idle, and where it is permissible temporarily to utilize this surplus capacity at a low rate sufficiently in excess of the cost of fuel and coagulants.

The control in these various cases might be considered as appearing on a curve or diagram, representing slide in schedule, with the general water company appearing at the bottom of the curve while at the top would be found the small private water companies giving, under Commission jurisdiction, all of the items of consumer service and under the controlling influence of the value basis, supported by an otherwise surplus plant capacity. To find the relative position, on this curve, of any plant or water company, it is necessary only to examine its characteristics and environment. In any and all cases, however, the final decision as to rates and slide in schedule should and must be based on sound and logical reasoning.